A probabilistic approach to automated bidding in alternative auctions

Authors Marlon Dumas   Queensland University of Technology, Brisbane,Australia
Lachlan Aldred   Queensland University of Technology, Brisbane,Australia
Guido Governatori University of Queensland, Brisbane,Australia
Arthur ter Hofstede Queensland University of Technology, Brisbane,Australia
Nick Russell   Queensland University of Technology, Brisbane,Australia

Additional Information: abstract   references   cited by   index terms   collaborative colleagues   peer to peer

Tools and Actions: Find similar Articles   Review this Article
Save this Article to a Binder   Display Formats: BibTex   EndNote ACM Ref

↑ ABSTRACT

This paper presents an approach to develop bidding agents that participate in multiple alternative auctions, with the goal of obtaining an item at the lowest price. The approach consists of a prediction method and a planning algorithm. The prediction method exploits the history of past auctions in order to build probability functions capturing the belief that a bid of a given price may win a given auction. The planning algorithm computes the lowest price, such that by sequentially bidding in a subset of the relevant auctions, the agent can obtain the item at that price with an acceptable probability. The approach addresses the case where the auctions are for substitutable items with different values. Experimental results are reported, showing that the approach increases the payoff of their users and the welfare of the market.

↑ REFERENCES

Note: OCR errors may be found in this Reference List extracted from the full text article. ACM has opted to expose the complete List rather than only correct and linked references.

1   P. Anthony, W. Hall, V. Dang, and N. Jennings. Autonomous agents for participating in